

11. When can we expect your definitive textbook on this subject?
12. Why do you think there was such a flurry of activity in this area around the turn of the century and then nothing until your paper of 1979?

[The true answer is that people in the period in between had more sense.]

In general, a good ploy is to stop halfway through a totally meaningless question you are asking and pretend you have suddenly seen the answer yourself. However, never, never

13. What are the applications of these results?

The speaker is probably embarrassed enough already!

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\* The above article is reprinted from the *American Mathematical Monthly*, Vol. 90, No. 1, p. 48 (January 1983). We are grateful to the Editor of the *American Mathematical Monthly* to reprint it here.

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## CONFERENCE REPORT

### THE ROLE OF MATHEMATICS IN ENGINEERING EDUCATION

The conference was held on June 7 and 8 at NIHE, Limerick and was attended by over fifty engineers and mathematicians from Universities, Polytechnics, NIHEs, RTCs and Colleges of Education throughout Ireland as well as a number of representatives from industry. The aim of the conference was to discuss whether the importance of a mathematical education for engineers lies in the development of a formal language for the expression of engineering problems or in the provision of a problem solving tool kit. The six sessions were each addressed by a keynote speaker and followed by lengthy discussion periods.

The conference was set in motion by that 'honorary Irishman' Professor Avi Bajpai of Loughborough University of Technology who reviewed the development of engineering education in the last ten years, stressing the greater emphasis on computers which has led to more numerical and statistical techniques, control theory, optimisation and operations research. He suggested that the teaching of modelling by means of case studies could lead to an integrated approach which could be implemented by team teaching. At the conclusion of his talk Professor Bajpai demonstrated some material developed for computer assisted learning in the MIME project (Micros in Mathematical Education).

Professor Eamonn McQuade, NIHE, Limerick, looked into his crystal ball and considered the implications of new technology, e.g. CAD, CAM and expert systems, on the skills required of engineers. He concluded that in the future engineers will need a strong fundamental knowledge of the underlying principles of their technology and insisted that mathematics teaching should concentrate on principles and concepts rather than solution techniques.

11 Dr Joe Morris of UCD inspired a lively discussion with  
his talk on the impact of Computer Science in Engineering  
Mathematics. He stressed the paramount importance of the  
12 ALGORITHM, rather than programming languages, in the teaching  
of Computer Science and pointed out that the ALGORITHM should  
also be influencing the way mathematics is taught. Some  
doubts were also expressed about the introduction of Computer  
Science in the secondary school.

13 After a lively conference dinner, participants rose the  
next day to hear Professor Sean Scanlon of UCD outline the  
roles and interactions of model building and mathematical  
analysis in engineering design work. He pointed out that,  
as engineers must be equally skilled in both aspects of design,  
their mathematical education should be directed towards equip-  
ping them with an understanding of the 'fundamental ethos of  
the mathematics outlook'.

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\* Tom Power of Waterford RTC addressed the problem of tech-  
nician education. He advocated a structured approach to the  
teaching of concepts and algorithms with material organised  
— so as to be easily referenced by engineering lecturers.

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The final session of the conference was addressed by  
Dr Peter Lawes from Howmedica. His text was 'We don't know  
what we don't know'. He emphasised that only through strong  
links between industry and third level institutions can this  
information gap be bridged. He invited those in education  
to learn from industry so that they could in the long run  
influence industry.

A complete account of the proceedings of the conference  
will be published in a forthcoming issue of the International  
Journal of Mathematical Education in Science and Technology.

The organisers of the conference acknowledge the generous  
sponsorship of Howmedica International Inc., Analog Devices BV.

and the Royal Irish Academy.

*Gordon S. Lessells*